Phase 2 Report

Facility Guidelines for Technology in the Courthouse

March 31, 2001

Technology

State of California

Task Force on Court Facilities

On the cover:

Representative California Court Facilities

Clockwise from top left:
Amador County Courthouse, Jackson
Civic Center Courthouse, San Francisco (San Francisco County)
Main Courthouse, Redding (Shasta County)
Central Courthouse, San Bernardino (San Bernardino County)
Lamoreaux Justice Center, Orange (Orange County)
Contra Costa County Courthouse, Martinez

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Acknowledgments

Task Force on Court Facilities

Hon. Daniel J. Kremer, Chair
Presiding Justice
Court of Appeal of the State of California
Fourth Appellate District, Division One

Mr. Greg Abel
Court Executive Officer
Superior Court of California
County of Sonoma

Mr. Wylie A. Aitken
Attorney at Law
Santa Ana

Hon. Joan B. Bechtel
Supervisor
County of Sutter

Ms. Yvonne E. Campos
Attorney at Law
San Diego

Mr. John A. Clarke
Court Executive Officer
Superior Court of California
County of Los Angeles

Mr. Mike Courtney
Deputy Director
Real Estate Services Division
Department of General Services
State of California

Hon. Hector De La Torre
Councilmember
City of South Gate

Sheriff Robert T. Doyle
County of Marin

Hon. Jerry Eaves
Supervisor
County of San Bernardino

Hon. Gary Freeman
Supervisor
County of Glenn

Mr. David E. Janssen
Chief Administrative Officer
County of Los Angeles

Mr. Fred Klass
Program Budget Manager
Department of Finance
State of California

Hon. Mike Nail
Judge
Superior Court of California
County of Solano

Hon. Wayne L. Peterson
Presiding Judge
Superior Court of California
County of San Diego

Hon. Charles V. Smith
Supervisor
County of Orange

Mr. Anthony Tyrrell
Area Agency 12 on Aging

Hon. Diane Elan Wick
Judge
Superior Court of California
County of San Francisco

Facility Guidelines for Technology in the Courthouse Working Group

Hon. Thomas Cecil, Chair
Presiding Judge
Superior Court of California
County of Sacramento

Mr. Todd Barton
Court Executive Officer
Superior Court of California
County of Kings

Hon. Raymond Edwards, Jr.
Judge
Superior Court of California
County of San Diego

Mr. James D. Otto
Attorney at Law
Kroll, Rubin & Fiorella, LLP.
Los Angeles

Mr. Gary Whitehead
Court Services Director, Information Services
Superior Court of California
County of Riverside

Project Staff, Administrative Office of the Courts

Mr. Robert D. Lloyd, Architect
Project Director, Facilities Unit Manager

Ms. Patricia Bonderud, AIA, CSI
Facilities Planner

Ms. Nicole Davis
Secretary

Mr. Robert Emerson, P.E.
Project Manager, Senior Facilities Planner

Ms. Veronica Gomez, Architect
Facilities Planner

Ms. Sara Hauge
Staff Analyst

Mr. Bruce Newman
Facilities Planner

Project Consultants

Daniel, Mann, Johnson, & Mendenhall/Spillis Candela & Partners
in association with
Vitetta Group and Justice Planning Associates

AeCOM Consulting

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Section I: The Genesis and Intended Use of Facility Guidelines For Technology In The Courthouse

Section I: THE GENESIS AND INTENDED USE OF FACILITY GUIDELINES FOR TECHNOLOGY IN THE COURTHOUSE

At different speeds and in different ways, California's courts are relying increasingly on technology to improve public access, increase office and courtroom accuracy, increase efficiency and improve communication both within the courthouse and between justice and law enforcement agencies. Systems available today include:

Technology based court records
Document imaging
Evidence / exhibit management and presentation systems
Video first appearances, hearings, testimony and conferences
Electronic filing
Legal research
Jury management
Case management
Financial, personnel and procurement management

1. DEVELOPMENT AND INTENDED USE OF THE GUIDELINES

The Task Force on Court Facilities, as part of its mandate by the Lockyer-Isenberg Trial Court Funding Act to make a "preliminary determination of acceptable court facility standards," developed these guidelines for court construction that address the technology needs of the courts. The Task Force recognized the increasing use of technology within the California court system and focused on recommendations that provide a flexible *infrastructure* that ensures a new courthouse efficiently integrates current technologies and provides the flexibility and capacity to adapt to the inevitable growth and change in technology.

The organization of this report follows that of the Task Force's first interim report, "Preliminary Determination – Trial Court Facilities Guidelines," and addresses business applications of technology, not security applications. The report is designed for use in conjunction with the trial court facilities guidelines. The glossary, Appendix A, contains detailed discussion of terms that may aid in reading the report. Words that appear in the glossary appear in italic letters throughout the report. Appendix B is a matrix showing information systems and equipment commonly used in different rooms and areas of the courthouse.

It is envisioned that these recommendations for courthouse construction that readily accepts and assimilates current and future technology will be used by courts, counties, public interest groups, architects/designers and governmental funding agencies when designing new court facilities. They should also be considered when deciding to renovate, convert or abandon existing court facilities.

Section II: General Facilities Design Guidelines for Technology

Section II: GENERAL FACILITIES DESIGN GUIDELINES FOR TECHNOLOGY

1. GENERAL PRINCIPLES FOR THE APPLICATION OF TECHNOLOGY IN THE COURTHOUSE

Technology-based systems designed for the courts, and the buildings that support them, should consider the following principles[1]:

- Systems should move information to people; not people to the information.
- Systems and technology concepts should be simple and easy to understand and apply.
- Systems should support connectivity, providing access points for technology throughout court buildings and space.
- Technologies and systems employed in the courts should be locally supportable and adaptable.
- Courts should use proven systems and technologies to minimize systems interruptions and *downtime*.
- Systems should be flexible, supporting rapid and continuous change; court buildings should be designed to accommodate this change.

Courthouse design should consider both the *infrastructure* (e.g., *cable trays*, conduit, wiring, connections) and the space necessary for the increased numbers of equipment and devices finding their way onto the desktop, into the courtroom and into the courthouse. Judges, court managers, planners, architects and designers must understand how technology systems impact the use of court spaces and reflect this in the courthouse design (e.g., use of *information kiosks* and displays will likely change the traditional layout of the court clerk's public spaces). They should also create flexible systems that are easily and cost-efficiently adaptable to changing needs and technologies.

Most equipment used in court facilities, such as personal computers, *file servers*, telephones, *modems*, copiers and facsimile machines are similar to those used in other government and business organizations. Trial and appellate courts also use several technologies specifically modified and adapted for judicial purposes, such as *court reporting* and case management information systems. Efficient architectural planning, programming and design should facilitate installation and modification of these technologies that, in turn, can substantially reduce the initial cost of equipment installation as well as the cost of upgrading to newer technology.[2] Good design will also ensure equipment accessibility and ease of maintenance, minimizing the *life cycle*

[1] See Griebel, *New Generation Smart Courthouses* (September 1997) Fifth National Technology Conference, National Center for State Courts
[2] See Administrative Office of the U.S. Courts, U.S. Courts Design Guide (1994)

costs. Since technology is constantly evolving, any installation should be adaptable to change.

Technology serves not only the courthouse staff but also courthouse users and the public. New courthouses should be designed to accommodate:

- **Public Access:** Public access technologies that are easy for the public to use: computerized records access, aid to pro-per litigants, video displays for schedule and calendaring information, interactive kiosks, connection to court information from remote locations (e.g., *Internet* or *computer bulletin boards*; see Remote Access).

- **Remote Access:** Access to the court from remote locations by *modem*, *Wide Area Network (WAN)* or over the *Internet* for *electronic filing*, scheduling, fine payment, small claims/eviction case processing and public information. Remote users may include state and federal agencies, attorneys, law enforcement, corrections, law schools (*distance learning*), media, defendants, witnesses, satellite court facilities, and court employees (*telecommuting*).

- Video-conferences for video appearances, intake interviews, probable cause hearings, traffic education, staff training, testimony, mediation, arbitration, administrative meetings and, possibly, the *virtual courtroom.* Also *distance learning*: interactive educational programs between two sites linked by cabling, microwaves or satellite.

- **Office Automation:** Courts will increasingly rely on automated systems for case management, legal research, payroll, personnel, financial, property inventory and other administrative needs. Personal computers will likely be installed in all courtrooms, offices, libraries, public service areas and other areas of the courthouse providing access to these automated systems as well as services such as word processing, electronic mail and electronic document retrieval.

- **Networks:** Communication/data networks (e.g., *LAN*s, *WAN*s, *closed circuit television*, and audio/video systems) including computer rooms, *intermediate distribution rooms*, cabling, connections (at the desktop and elsewhere) and off-site telecommunications (e.g., T-1 lines, Integrated Services Digital Network (ISDN) lines, Digital Subscriber Lines (DSL), cable, microwave and satellite communications).

- **Storage Systems:** Storage systems such as *document imaging* and *digitized case files* reduce storage space needs and improve document-retrieval and information-sharing capabilities throughout the court; particularly in the clerk's office and judges' chambers.

- **Communications Devices:** Sound reinforcement, *Assistive Listening Systems* (ALS) and *Telecommunication Device for the Deaf (TDD)* in courtrooms, offices and

court support areas (jury assembly, hearing rooms, etc.), including use by interpreters for translating courtroom discussion. Also included are computers/monitors for displaying text for the hearing-impaired and large type for the visually impaired.

- **Presentation:** A broad range of courtroom presentation, *computer presentation* and teleconferencing technologies for evidence presentation and display, remote testimony, training and other uses.

- **Information Integration:** Improved information coordination and intersystem communication between courts, district attorney, public defender, probation, law enforcement and corrections to reduce duplicative data entry and ensure immediate access to critical information (e.g., arrest records, custody orders, criminal history, inmate classification, probation records, judgments).

2. BUILDING CONFIGURATION

(a) Organization of Space

Courthouses should be designed using a modular approach. The basic elements of a building should be systematically studied and organized using building structural systems and core designs that are fundamentally flexible and adaptable to multiple future uses. Electrical closets, telecommunication closets and other utility service areas should be positioned every 10,000 to 20,000 square feet. Telecommunication, fire protection and security equipment closets should be located directly adjacent to one another on each floor. This simplifies physical connection requirements and future connectivity. In addition, modular utility areas should be located directly above one another from floor to floor (stacked). This simplifies initial construction, lowers construction costs and simplifies future modifications.[3]

(b) Court / Building Systems

New court facilities should incorporate the following systems:

- Generator or standby power
- *Uninterruptable power supply (UPS)*
- Lighting control
- Telecommunications
- Computer systems
- *Energy management*
- Security management and access control
- *Maintenance management systems*

[3] See Griebel, *New Generation Smart Courthouses* (September 1997) Fifth National Technology Conference, National Center for State Courts

(c) Cabling Infrastructure

Today's technology relies almost exclusively on cabling for communication. While wireless systems are rapidly evolving, they are unlikely to replace cable in the near future. The type of cable used is constantly evolving, with higher band-width applications at the desktop driving the change. Today's twisted-pair wire may soon be replaced with fiber optic lines. The design of the *cable carrying plant* (conduit, *raceways*, *cable trays*, chases, ducts, *access flooring*) requires special attention to ensure that data distribution / communication systems (*LAN*, *WAN*) installed within a building can keep pace with technology advances. The *cable carrying plant* should also be designed for ease of pulling and removing cable. The design should ensure that the building has data arteries that extend, longitudinally and latitudinally, to any space that could foreseeably be occupied; tying the space back to the building's communication hubs (e.g., computer rooms and *intermediate distribution closets*). These arteries provide the backbone for the court's voice, *LAN*, *WAN*, and high *bandwidth* requirements.

A technologically advanced courthouse should be designed with information and power pathways that can accommodate changes in technology and organization. A well-designed building will not only be built with flexibility to accommodate change but will also actually assist change.[4] To ensure flexibility, adaptability (ease of change) and cost- effectiveness over a courthouse's lifetime, data distribution systems should incorporate these key features:

- **Vertical Alignment**
- As noted above, telecommunication, data and electrical distribution closets located on different floors should be aligned vertically in multistory buildings to minimize costs of installing and managing telecommunication and data systems. Vertical *raceways* and/or conduits dedicated exclusively to electronic networking for data, communications, and audio-video systems should be installed. These *raceways* and conduits should have capacity for twice the court's need at initial occupancy. Providing excess *cable-carrying plant* capacity is an efficient and cost effective investment that ensures the building's flexibility for future technology. Providing this expansion capability as part of the initial construction project costs a fraction of retrofitting the facility at a later date. In addition, it improves cable management throughout the lifecycle of the building; avoiding confusing and unsightly cable installations and minimizing the time for connecting new equipment.

- **Telecommunication, Data and Electrical Closets**
- Closets should be located on individual floors so that distribution of data services can be appropriately zoned to minimize and equalize the distance of horizontal cable runs radiating from them. They should be connected by *raceways* and/or conduits dedicated exclusively to electronic networking for data, communications and audio-

[4] See Griebel, *New Generation Smart Courthouses* (September 1997) Fifth National Technology Conference, National Center for State Courts

video systems. These *raceways* and conduits should have capacity for twice the court's need at initial occupancy. Closets should be secure and appropriately air-conditioned.

- **Horizontal Distribution**
- The distance between the closet and the desktop is limited by the type of wire used. For example, *Category 5 cable* runs must be less than 328 feet. Options for horizontal distribution (through *cellular deck*, *access floor*, *ceiling plenums*, etc.) in open-office areas should be analyzed based on office function, operational patterns, estimated frequency of changes and life-cycle cost. *Access floor* systems should be considered for rooms with high concentrations of personal computers, audio-video equipment or other technology. For example, *access floors* are appropriate for rooms with large numbers of open-office workstations. *Access floor* systems for a courtroom's well, bench and clerk's workstation may also be appropriate. The use of *cable trays* rather than conduits is preferred. Rigid conduits in the floor for wire distribution are generally not acceptable. The horizontal *cable-carrying plant* should have excess capacity of 50% or more above move-in requirements.

- **High *Bandwidth* Cable**
- High *bandwidth* cable (e.g., fiber optic) should link all telecommunication closets, both between floors (vertically) and on the same floor (horizontally). Fiber optic cable serving the desktop should be considered when high *bandwidth* applications are anticipated, such as computer video animation in the courtroom.

- ***Voice/Data Outlets and Dedicated Electrical Service***
- All rooms that could be occupied in the future (e.g., workrooms, storerooms, file rooms), regardless of their initial use, should be supplied with voice/data/power outlets located in wall plates or flush floor monuments. Outlets serving every 150 net square feet (nsf) are suggested. All *voice/data outlets* should have two wired data *jacks*, two wired voice *jacks* and two spare *jacks*. These spares may hold fiber optic cable, coaxial cable or other *specialty jacks*. Wire runs for voice and data outlets should be terminated in the telecommunication/data distribution closets where they can be connected to the telephone or data systems as needed.

- *Dedicated electrical circuits*, marked for computer use, should be provided and designed to serve no more than three computers each. Equipment such as copiers may require outlets dedicated exclusively to the device.

- **Independent Systems for Multitenant Facilities**
- Buildings that house more that one agency (e.g., court, district attorney and public defender) should have independent data-distribution systems (conduit, *raceways*, data closets, cabling, etc.) serving each tenant agency, for system security and ease of maintenance. Because agencies change size over time, the data-distribution system serving independent agencies in a shared building should be planned and

built to accommodate such changes. Independent system design should allow controlled access sharing of information among agencies.

- **System Redundancy**
- Data distribution systems critical to court operations should be designed with two data pathways from the computer or file server room to the *intermediate distribution closets* from which cable radiates to the desktop. A cost-effective way to accomplish this is by providing primary lines to each distribution closet from the computer room and interconnecting the distribution closets to provide a looped system. These systems may also have *Uninterruptable Power Supplies (UPS)* and back-up power.

(d) Audio/Video (A/V) System

An integrated audio/video system linking key rooms and areas of the courthouse should be considered. The integrated A/V system can serve the court in a number of ways:

- Allow remote appearances of defendants from the county jail and/or state prisons.
- With the judge's approval, it can provide audio/video feeds to the press for televised trials, eliminating the haphazard placement of cameras and cable installed by the media and providing a signal that can be controlled by the judge.
- Allow the broadcast of court proceedings and events to key locations in the courthouse for use by attorneys or staff for trial support and training or to accommodate overflow audiences.
- Allow juvenile testimony outside of the courtroom in safe, nonthreatening locations, such as a conference room.
- Allow law schools to receive trial broadcasts for educational purposes.
- Provide input/output for videoconferencing, facilitating remote appearances and testimony.

- Key elements of an integrated audio/video system include

- A *Closed Circuit Television* System (*CCTV*) with broadcast-quality video cameras, monitors and/or recording equipment installed in key rooms and linked by cabling. In larger installations, a control room should be included that allows switching and routing of audio and/or video signals to key spaces as needed.
- An audio system that consists of microphones and speakers strategically located in key spaces throughout the courthouse and linked with cable. As with *CCTV,* a control room should be included in larger installations. The CCTV room and the audio control rooms may be a single room.
- A *Master Antennae Television (MATV)* system allowing distribution of commercial cable or satellite television to selected rooms or areas. By utilizing a channel inserter, the courts may also broadcast audio-video signals to selected channels (e.g., channel 2 could be court broadcasts).
- A mast for mounting satellite and/or microwave dishes on the courthouse's roof should be provided. A *cableway* (e.g., conduit) should link the dish location with the telecommunications closets and/or computer room.

(e) Audio/video Teleconferencing

Use of video teleconferencing technology is increasing as courts seek new ways to improve security, increase staff efficiency and reduce staff travel time and expenses. Three types of videoconferencing are in use today: (1) *closed circuit television* systems connecting locations directly over dedicated cable or fiber owned by the agency(ies); (2) videoconferences utilizing coded data sent over common-carrier communications (e.g., DSL, ISDN, T-1 lines) to connect remote locations; and (3) multimedia conferencing over the public *Internet*, corporate intranet, or *LAN*. To date, this technology has, typically, been used for remote appearances of defendants from the county jail and general conferencing with service provided to a limited number of rooms in the courthouse. As the technology improves, demand for videoconferencing will likely grow. In a new courthouse

- At least one courtroom should be designed for video appearances and be fully functional at initial occupancy of the courthouse. All courtrooms should include the space and *infrastructure* for remote video testimony in their design, with one or more fully functioning at initial occupancy. The other courtrooms should have the *cable-carrying plant*, necessary equipment rooms and needed connections for video cameras and monitors installed, ready to accept cable, *codecs*, cameras and monitors at a future date.
- All conference rooms larger than 200 nsf should be designed for videoconferencing. At least one conference room should have fully functioning videoconferencing at initial occupancy; others should be readied for easy installation of the necessary equipment. Rooms should be laid out to support cameras and monitors. Lighting and surface colors should be designed for both regular conferences and videoconferences.
- Design of office areas in new court facilities should anticipate the future use of audio/videoconferencing at each workstation for virtually all communications. Consequently, the design of open-office areas should anticipate the need to control sound with sound-absorbing materials and/or background sound for masking conversation.
- Large assembly spaces should be designed with videoconferencing and multimedia presentation capabilities. Possible after-hours use of these areas should be considered, with their location and entrances designed accordingly (security and proximity to parking and entrances).

(f) Media Spaces

Specialized spaces with appropriate power and data/telecommunication support systems should be provided for news media. Audio/video or other feeds should be available for the media at locations convenient for connection to mobile radio and television crews' trucks and equipment.

Planned properly, a technologically advanced courthouse should be less expensive to operate; have a longer life expectancy; reduce the costs of renovations, retrofits and repairs; and increase worker productivity and satisfaction.[5]

[5] See Griebel, *New Generation Smart Courthouses* (September 1997) Fifth National Technology Conference, National Center for State Courts

Section III: The Courtroom

Section III: THE COURTROOM

The modern courtroom is a data hub that relies on technology for exchanging and managing information that is essential to dispensing justice and conducting fair, effective and efficient trials. The judge, clerk and attorneys should have instantaneous access to information from within the court as well as from outside of the court system. The capability to present evidence quickly and clearly to the judge and jury is essential and is enhanced by having technology, such as computers and VCRs connected to displays, at attorneys' fingertips. The courtroom should also have the ability to accurately record the proceedings and instantly play back a verbatim transcript. Immediate dissemination of court judgments and decisions is also essential. Technology enhances the ability of the participants, including spectators, to see and hear the proceedings. A well-designed sound system reinforces speech and well placed-video monitors allow all to see evidence displays such as computer-animated crime scene simulations. Data networks should link the court to courthouse staff and information systems as well as those of other agencies.

- **Audio System**
  The courtroom should be sound and acoustically engineered to ensure that all participants can readily understand conversation. The design should also ensure that confidential conversations such as bench and attorney-client conferences are not overheard.

  Every courtroom should have a sound system designed to provide an even level of sound reinforcement throughout the room. In-custody holding facilities within or adjacent to the courtroom should include speakers connected to the courtroom sound system so that unruly defendants can be isolated from the courtroom and still hear the proceedings. The courtroom telephone system should be tied into the sound-reinforcement and electronic recording systems to accommodate telephonic proceedings, conference calls and a speakerphone. If not installed initially, sound reinforcement equipment should be planned for and *cableways* installed for connecting key locations and participants.

  The design of the courtroom sound system should carefully consider the type and placement of speakers and microphones; the quality and location of the microphone connectors; audio wiring; integration of the audio recording system with the sound amplification system; and the room's acoustical conditions. System control panels should be located at the bench and at the clerk's workstation. Additionally, microphones and speakers should be designed as an integral part of courtroom furniture; their planning and placement should consider the space and ergonomics required for their proper use, as well as their aesthetic impact on the courtroom.

  Microphone outlets should be located
  - Judicial officer's bench
  - Witness box

- Jury box
- Attorneys' and litigants' tables
- Clerk's workstation
- Lectern
- Court-reporting area
- Exhibit area

The microphone at the judge's position should have an on/off switch so that it can be silenced during bench conferences. Microphones at attorneys' tables should also have an on/off switch to allow for private discussions between attorneys and litigants.

The sound system should be capable of receiving and amplifying wireless microphone transmissions. Controls for the courtroom's sound reinforcement and *assisted listening systems* are typically located at the clerk's workstation or the judge's bench. Sound systems should accommodate persons who are hearing-impaired, including jurors and spectators, and those who need interpreters as required by California Civil Code, section 54.8 and Evidence Code, section 754. This may require assisted listening systems (ALS) that are integral with the courtroom's sound system or associated closed captioning video translation systems. A wireless infrared ALS is preferred since proceedings on FM frequency can be picked up outside the courtroom. An infrared transmission behaves like light and requires opaque shades in rooms with windows to maintain privacy. Multitrack systems can be used for assisted listening, simultaneous translation, and allowing trial participants to listen to confidential tape recordings. ALS controls are generally located at the courtroom clerk's station.

- **Video System**

  At least one courtroom should have a fully functioning video system at initial occupancy. Video systems should also be considered for all other courtrooms. For video appearances, the courtroom should have a direct cable or fiber optic connection to a holding facility at the county jail that is also equipped with an audio-video system. Videoconferencing over telephone lines (e.g., T-1, ISDN) should be considered if the distance between the court and the jail precludes a direct cable connection. If not initially installed, provision should be made for their installation at a future date including preplanned camera and display locations, adequate *cableways*, and remote closets for installation of necessary equipment.

  A courtroom video system should include broadcast-quality color cameras; cabling (including feeds to the media room and selected conference rooms); equipment for encoding audio/video for transmission over telephone lines (*codec*) for videoconferencing; and video outlets and monitors. The system should be integrated with the courtroom audio and may be designed so that cameras are automatically directed at the speaker. Depending on the system's complexity and the design goals of the court, a control room, with monitor, may also be needed.

The video system should also be integrated with the evidence display system so that electronic images can be viewed on the same monitors. Monitors should be placed in the courtroom so that all participants, particularly the judge and jury, have a clear view.

Cameras should be placed so that they provide a clear view of the judge, the litigants and their attorneys but not the jury. Remotely operated video cameras should be considered on the side and at the rear of the courtroom as well as a ceiling-mounted camera located over the front of the spectator area. Cameras should, typically, have pan, tilt and zoom features and should be installed discretely in the courtroom. A camera should be placed in a nearby conference room for possible use in taking testimony from a juvenile witness.

Power outlets should be provided adjacent to each video outlet. Video outlets should be connected to the video control room containing recording equipment and controls. Provision may be made for future videotaping of court proceedings.

Codecs for videoconferencing can be shared between courtrooms; however, with this arrangement only one courtroom can videoconference at a time.

- **Communications (Telephone System and Data Network)**
  A *modular telephone system* should be installed in every courtroom. Phone *jacks* should be provided at the bench, clerk's workstation, bailiff's station and court reporter's station and at both attorneys' tables. The courtroom should have available a phone designed specifically for audio-conferencing. Phones should be designed to link with the courtroom's audio amplification system so that all courtroom participants can hear.

  Connection to the court's data network should be provided at the judge's bench, clerk's workstation, court reporter's workstation, witness stand, bailiff's workstation, attorneys' tables, jury box and, possibly, the spectator rail. The network ensures the sharing of information within the courtroom, and can provide controlled access to information available in the courthouse or from sources outside the courthouse.

- **Evidence Presentation System**
  A modern courtroom should be designed for attorneys to use electronic media easily and conveniently to aid in arguing their case and presenting evidence to the judge and jury. Evidence can include images of documents, movies, photos, computer simulations and computer animation that are displayed on strategically located televisions, computer monitors and/or video projectors. The attorney should be able to access and control electronic presentation equipment such as a document camera, computer, compact disc (CD) player, DVD player and VCR. Typically, this equipment is located at the attorneys' tables or at a lectern located in the well of the courtroom and connected to the courtroom's audio, video, and computer network

systems. The judge, from the bench, should have the ability to override the images presented.

- **Architectural Considerations**

  Horizontal distribution of cable serving the courtroom should be analyzed based upon anticipated operational patterns, estimated frequency of changes and *life cycle costs*. Distribution in the litigation area can be through *access floor, cellular deck* or conduit. In a multipurpose courtroom that may handle criminal and civil matters, complex litigation and/or multiple defendant/jury trials, *access flooring* in the litigation area is strongly preferred. *Access flooring* allows the courtroom to be easily reconfigured for changes in courtroom use or installation of new technology. Conduit should generally be avoided, except in smaller nonjury courtrooms typically used for juvenile and family law hearings that, typically, do not require the same flexibility as multipurpose jury courtrooms. If used, conduit should be sized for a minimum of twice the initial move-in requirement.

  A secure, air-conditioned data/telecommunications closet may be located near the courtroom for computer network equipment. Doors should be equipped with cipher locks, keypads or card readers to limit access to authorized personnel. The closet should have equipment racks and *cable trays* (rather than conduits), as well as emergency power outlets.

  Depending upon the complexity of the audio/video systems, a control room serving multiple courtrooms may be required. The control room should be equipped with racks, amplifiers, VCRs, *codec(s),* switching and other equipment for sharing and managing audio-video resources. Video signal can be routed to and from various A/V equipped rooms including courtrooms and the media room. The control room should include monitors.

  The electrical system serving the courtroom area should be designed for a minimum 25% load growth above initial occupancy requirements. *Dedicated electrical circuits* and grounding should serve computer equipment.

1. AREA DESCRIPTION

Spectator Area

The public should be able to clearly hear and see the courtroom proceedings. The sound reinforcement system should be designed to provide an even level of sound reinforcement throughout the room. If video presentations cannot be easily viewed on displays located in the litigation area, video monitors should be discretely installed at the perimeter of the public seating area. The ALS should be designed to serve courtroom spectators.

Audio/video feeds to nearby assembly spaces (e.g., conference rooms) to handle overflow crowds should be considered for at least one courtroom in each courthouse.

Litigation Area

(a) The Judicial Officer's Bench

The bench is designed and positioned so that the judge can see and control the proceedings and all courtroom activities. The judge should also be able to see and control dissemination of all information, including presentations, in the courtroom and have ready access to information necessary for the conduct of the trial. From the bench, the judge should also be able to control the use of all technology in the courtroom.

A personal computer should be integrated into the bench's design so that the display is visible to the judge without impairing the judge's view of participants in the proceedings. The computer should be connected to a *LAN* linking the judge to key court staff (including the court clerk), providing nearly instantaneous communication with others in the courthouse as well as access to court records. The computer should also be linked to a *WAN* and the *Internet* for access to information from other agencies (e.g., probation department, police department) such as custody orders, criminal history, inmate classification and probation reports. If *real-time* court reporting is utilized, the judge should have access to the transcript on either the computer display or a separate video display. E-mail service over the *LAN*, *WAN*, and *Internet* should be available to the judge and the court clerk. The design of the bench should not only integrate a computer and display(s); it should also provide space for a printer and telephone that are discretely located and easy to use. The printer may be shared with the court clerk.

The judge should be able to see and hear all testimony and evidence presented in the courtroom. Therefore, a well-designed speech reinforcement system should be included in the courtroom. A microphone with a mute switch, speakers with volume control and a connection for a *lavaliere* style microphone should be installed in the bench, unobtrusively. The judge should have clear view of evidence presented using multimedia technology, which may require a video display monitor at the bench. The judge's PC display should be considered for this purpose.

While all trial participants' ability to hear and see courtroom proceedings is a principal concern in courtroom design, maintaining confidentiality of sidebar discussion between the judge and counsel is another requirement. *Masking sound* (white noise) may be considered in the acoustic design to assist in isolating sidebar discussion. An infrared listening system may be considered for use by the court clerk and court reporter when recording the sidebar.

Great care should be exercised in designing the bench so that it accommodates current technology and can readily accept new technology. To easily accommodate changing technology, the bench should be designed with concealed, accessible *cableways* that make expanding or replacing cable and electrical wiring simple and easy. These *cableways* should have a minimum capacity of 1.5 times the cable/wire required at initial occupancy. The bench should also have voice, data, video and electrical outlets

located at the desktop, with excess capacity to support future changes. Consideration should be given to using fiber optic cable for data transmission if high *bandwidth* applications, such as desktop video, are anticipated.

Connecting courtroom system(s) to emergency power and/or UPS may be considered so that the court can continue to operate during a power outage

(b) Courtroom Clerk's Station

Like the bench, the court clerk's workstation should integrate a networked computer and display(s), provide space for a discretely located printer and telephone and be designed with concealed, accessible *cableways* sized at a minimum of 1.5 times the capacity required for initial occupancy. The station should also be connected to the *LAN*, *WAN* and *Internet*. Voice, data (including fiber optic connection), video and electrical outlets should be located at the desktop with excess capacity to support future changes. The workstation should be designed to ensure that the use of computer equipment and printers does not interfere with courtroom proceedings. A microphone should also be installed. The clerk should be able to switch between a flashing light and ringer to signal telephone calls.

(c) Court Reporting Area

Many events that occur within the courtroom require producing an official verbatim record of the proceedings. In California's trial courts, a certified shorthand reporter (CSR) using machine stenography is the principal reporting technology used. Significant advancements have been made in the field of court reporting, including re*al time*, computer-assisted transcription (CAT) and other technologies. *Real time* systems provide almost instantaneous written display of words spoken by the party being reported. Frequently, only the judge may see the display (on a bench montior), but in appropriate cases, the display should also be available to counsel, jurors, witnesses and spectators (requesting an ADA accommodation). Accordingly, consideration should be given to providing appropriate cabling *raceways* from the reporting area to the bench, attorneys' table and jury box. Cabling *raceways* and outlets should also be provided for large-screen display for members of the audience.

The court reporting area should be designed with space for a computer and monitor with ready access to electrical power and the courtroom's data network. Since the location of the court reporting area can vary, connections can be located in the front of the bench or, preferably, in multiple floor monuments.

(d) Bailiff's Station

The bailiff's and/or *court attendant's* workstation should have power and *voice/data outlets*. The telephone should be switchable between a flashing light and a ringer. The workstation should accommodate a computer and monitor. If a security monitor is installed, extra workstation space should be provided.

(e) Witness Stand

Young children, especially victims and witnesses, may be intimidated by the courtroom setting. Therefore, care should be taken in selecting nonintrusive, nonthreatening equipment for the witness stand; for example, a stem or gooseneck mounted microphone should be avoided. A wireless or *lavaliere*- style microphone should also be considered since witnesses are often required to leave the stand to discuss exhibits. In addition to the microphone, the witness stand should include data outlets, a video monitor for evidence display and use of the ALS for hearing-impaired witnesses or translators. Fiber optic cable for data transmission should be considered if high *bandwidth* applications such as computer video are anticipated.

(f) Jury Box

As required by Civil Code, section 54.8 and Evidence Code, section 754, the special needs of jurors should be considered when designing the jury box, including provision for sign language, interpreters, and *Assisted Listening Systems*.

Members of the jury should be able to clearly hear witness, attorneys' presentations and judge's instructions, as well see any evidence or information presented in electronic form. Installation of video monitors in the jury box is recommended to provide jurors with an unobstructed view of video displays. Flat panel monitors require significantly less space than conventional monitors and are, therefore, preferred. Monitors can be shared between jurors. Cart- or ceiling-mounted monitors and video projection on electric drop-down screens are other options whose use requires careful planning to ensure visibility. Power and data connections should be considered for each juror because of the increasing use of computer technology (e.g., "Live Note" which allows jurors to take notes on *real time transcripts)*. Fiber optic cable for data transmission should be considered if high *bandwidth* applications such as computer video are anticipated.

Microphones or microphone outlets should be incorporated for voice reinforcement, particularly if proceedings are being electronically recorded.

In large courtrooms, the public seating area may be the area designated for a second jury box for multiple-jury trials. A modular jury box should be considered for a second jury box. Provision should be made for connecting the modular box with the same services as the primary jury box (power, data, video, audio, etc.).

(g) Counsel Area

A movable lectern with a microphone should be available in the courtroom. The lectern may function as the control center for presenting electronic media to the court. The lectern should house a document camera, computer, compact disc player, digital video disc (DVD) player and video cassette recorder (VCR) connected to the audio/video systems and the data network.

Attorneys' tables should each have connections for power, telephone, data (including fiber optic for high *bandwidth* requirements) and video. Each table should be designed to hold a presentation monitor, two notebook computers and a small laser printer plus documents. The sound reinforcement system should include microphones or recessed microphone outlets at attorneys' tables. Wireless microphones may also be considered. A mute switch to turn off the sound system should be installed at each table to protect confidentiality between counsel and client.

In a multipurpose courtroom, it is important that attorneys' tables and the lectern be movable to adjust the size of the exhibit area. Multiple voice, data and power connections may be required to accomplish this. Installation of voice/data/power outlets for attorneys' support staff seated in front of the rail separating the public from the litigation area should be considered. In larger courtrooms, technology should be designed to accommodate at least four attorneys' tables and a lectern.

h) Exhibit Display Area and Equipment

Each courtroom should have exhibit display capabilities, which may include fixed monitors, video projectors and drop-down screens, electronic boards, white boards, X-ray viewers and tack boards/strips. Regardless of whether an exhibit is an actual object or an electronic representation, it should be clearly visible to all courtroom participants.

Section IV: Judicial Offices and Support Space

Section IV: JUDICIAL OFFICES AND SUPPORT SPACE

The offices, including the judicial chamber, provide work space necessary to support court proceedings. The technology requirements vary depending on the proposed configuration of these ancillary offices.

1. AREA DESCRIPTIONS

(a) Chambers

Judicial chambers should have power and voice/data connections for typical office equipment such as computers, peripheral computer devices, facsimile machines and printers. The computer configuration in chambers should be compatible with the computer on the bench. The computer should be connected to the *Local Area Network* (*LAN*) linking the judge to key court staff (including court clerk), providing nearly instantaneous communication with others in the courthouse as well as access to court records. The computer should also be linked to a *Wide Area Network (WAN)* and the *Internet* for access to information from other agencies (e.g., probation department, police department), such as custody orders, criminal history, inmate classification and probation records. Internal and external e-mail service should also be available to the judge.

If high-*bandwidth* applications, such as desktop video, are needed or anticipated, data *jacks* connecting to the *LAN* / *WAN* through fiber optic, coaxial cable or other similar high-*bandwidth* data distribution systems should be provided. At least two sets of voice/data and power outlets should be provided, one near the desk and the other near seating and/or conference areas. Chambers should be connected to the building's *CCTV* and *MATV* systems. The judge should have access to the case management, legal research, *court reporting* and *evidence/exhibit management system* and may have access to other information management systems such as financial and personnel.

Telephone conferencing equipment should be provided for in-chambers use. The equipment should be easy to use, provide great voice clarity and be flexible enough to be used at the desk or an in-chamber conference table.

(b) Support Staff Workstations/Reception/Waiting Areas

Staff should have access to case management and calendaring information systems. Each workstation and office should have power and voice/data connections for typical office equipment such as computers and peripheral computer devices. *Network printers* are generally located in nearby copy or file rooms or open-office areas specifically designed to control noise from these machines. Facsimile machines, which may be used for filing cases, are also typically located in these areas and will require a telephone line (typically analog) in addition to power. Access to the *LAN*, *WAN* and *Internet* should be provided.

(c) Copy/Workroom/Supply Area

The copy/workroom/supply area should have *dedicated electrical circuit* and *voice/data outlets* for connecting copiers and facsimile machines. Analog telephone lines are generally required for facsimile machines and for remote maintenance of digital copiers. The area should be ventilated to dissipate copier heat and fumes and should be located and designed to minimize noise transmission to other work areas.

(d) Court Reporting Work Area

Each office or workstation should be provided with power and *voice/data outlets* to accommodate typical office equipment such as a personal computer, small printer, facsimile machine and telephone. Storage and copy/file rooms should also have power and *voice/data outlets*.

(e) Bailiff Workstations

If the bailiff's work space is located within the judicial area, it should have power and voice data outlets. The bailiff's duties should determine the specific computer equipment necessary for performing those duties. As an example, if the bailiff is responsible for checking for outstanding warrants or calculating custody credits for an upcoming case, a computer with access to the appropriate case files systems and jail records is necessary. The workstation may also be connected to the jury room(s) by a call system designed to summon the bailiff when a jury is deliberating.

The workstation should also be designed to accommodate security duress and *CCTV* in addition to office technologies. The security equipment necessary for the centralized workstation is described in Section XII – Court Security Operations.

(f) Conference Room/Law Library

The multipurpose conference room/law library should have power and voice/data connections for typical office equipment such as a personal computer. The conference room/law library should have access to the same electronic information systems as the chambers and bench. This allows uninterrupted research, with the ability to look at case information or on-line research material without going back into chambers. Use of legal research systems may reduce the court's space needs by reducing the number of books in the law library. A small copier should be available in the room or nearby to copy information from legal research material.

Videoconferencing equipment or the cabling necessary to support portable videoconferencing equipment should be available in this room. *Telephone conferencing equipment* as described in the section (a) above should also be provided.

(g) Research Attorney Offices / Workstations

A computer configuration similar to that of the judge and the clerk is necessary for the research attorney. Access to the *LAN*, *WAN* and *Internet* should be provided.

(h) Robing/Conference Room (For Clustered Chambers Only)

Robing rooms may function as small conference rooms when used in conjunction with clustered chambers, providing a convenient place to meet near the courtroom. Therefore, they should be provided with power and *voice/data outlets* for typical office equipment such as a personal computer.

Section V: Jury Assembly Area and Deliberation

Section V: JURY ASSEMBLY AREA AND DELIBERATION

Many citizens have no contact with the court system except for service as a juror. The performance of this civic duty should be as uncomplicated as possible, with careful consideration given to accessibility of the court and jurors' comfort. Modern technology allows for processing large groups of people without confusion, minimizes time away from work or home and permits jurors to remain productive by remote access to their work sites.

Consideration needs to be given to designing the jury assembly area and applying technology in a manner that accommodates jurors' varying interests. For instance, those conducting business or reading may prefer being segregated from those watching movies.

- **Automated Jury System**
  Computer software is commonly used to notify, track and pay jurors. Proper use of this technology may improve traffic flow and reduce the size of the jury assembly area needed. Automated jury systems that include bar-coded identification dramatically reduce the amount of time spent identifying, checking-in and managing jurors. In conjunction with the system, software to integrate the information and display assignments on an electronic message board should be utilized to provide a visual means for jurors in the assembly area to monitor where and when they are assigned to a particular courtroom.

  The automated jury system should also be accessible through the *Internet* for jurors to check-in for their assignment. Consideration should be given to notifying jurors via personal e-mail.

  The automated jury system database might also provide the basis of the *interactive voice response* system *(IVR).* An *IVR* system allows prospective jurors to input their bar-coded identification number through the telephone to obtain information about their reporting assignment.

- **Telecommunication System**
  The use of telecommunication systems to manage and stagger large pools of jurors reporting for service is necessary to minimize the number of jurors on-site before their services are actually needed.

  Automated attendant systems and IVR systems allow prospective jurors to call for up-to-the-minute status on their assignment. *Automated attendant systems* are designed to answer a myriad of questions related to jury services. IVR systems allow jurors access to specific information about their service by accessing the database of the automated jury system. To maximize information, it is recommended that the automated attendant system be linked to the IVR system.

1. AREA DESCRIPTION

(a) Jury Assembly / Information Presentation Area

- **Public Address System**

  The jury assembly area should be provided with a well-designed public address system that ensures announcements can be easily heard throughout the assembly room, restrooms, snack areas or other areas accessible to prospective jurors. The room should be acoustically engineered to ensure proper sound control. Care should be given to design the system so that announcements do not disrupt operations in neighboring rooms or areas. Access to the public address system may be through microphones or the telephone system. Individual pagers, issued by the court, may be used so that prospective jurors may be allowed to leave the immediate vicinity of the assembly area.

- **Electronic Message Boards**

  Electronic message boards or monitors may be placed in various locations in the jury assembly area to notify prospective jurors of assignments. The boards or monitors should be tied into the automated jury system to allow for simultaneous dissemination of information.

- **Audio-Visual Equipment**

  Strategically placed video projectors/screens and/or monitors for presenting orientation information or live announcements by the jury commissioner is recommended. Audio-visual equipment such as VCRs and DVD drives should be centrally located and controlled. The equipment may also allow transmission of entertainment videos or cable broadcast to help pass the time. The jury assembly room may be connected to the court's central *CCTV* and *MATV* systems. Videoconferencing equipment may also be considered. This would allow transmission of a videoconference or live broadcast from an appropriately equipped courtroom. This feature may be useful in the voir dire examination of a jury. A DVD or VCR player may be provided for each audio/video display for playing entertainment videos. Individual televisions with headsets, similar to those found in airports, may be provided to accommodate individual television preference. Individuals who arrive late may also use this equipment to view prerecorded orientation information.

  An assisted listening system should be made available to hearing-impaired jurors. Magnification devices should also be made available for sight-impaired jurors.

- **Informational Kiosks**

  A kiosk may provide jurors information about the court system, local restaurants, services, public transportation and maps of the area. The kiosk should interface with the *jury management system* and may pay daily service fees, issue rapid transit passes, and provide proof of service for jurors' employers.

- **Working Areas**
  Electrical power and *voice/data outlets* for connecting notebook computers should be placed throughout designated areas to allow prospective jurors access to the *Internet* and e-mail, and to otherwise conduct personal business. Telephone service should be limited to local calling areas. The computers could also be used to link with kiosk functions. If separate work carrels are provided, they should also be equipped with electrical receptacles and *voice/data outlets* (local service).

- **Public Telephones**
  Hearing-aid compatible public telephones with volume control and *TDD* hook-up should be provided.

- **ATM**
  Space, power and communication lines for a automated teller machine (ATM) may be provided.

(b) Forms Counter and Coffee/Snack Area

(c) Jury Reception/Check-In

The reception counter in the jury assembly area should be equipped with computer hardware and software sufficient to support the automated jury system. Electrical power and *voice/data outlets* should be provided for each workstation. Access to *LAN*, *WAN* and the *Internet* should be provided. Telephone equipment that provides full access to the automated attendant system and public announcement system should be available at all workstations. (If the public address system is not accessible through the telephone system, a microphone should be placed at each workstation.) Ergonomic telephone headsets may be provided to facilitate answering the large volume of calls to the jury commissioner's office and provide hands-free announcement through the public address system.

Space and connections for *network printers*, copiers and facsimile machines should be provided in carefully considered locations because this equipment can be noisy and disruptive. Its location should be chosen for convenience and noise control. Data and power outlets should be located near the equipment with *dedicated electrical circuits* provided for all copiers. An analog telephone line is generally required for remote maintenance of digital copiers. Facsimile machines require power and a telephone line (typically analog) nearby.

A centrally located electronic control center allowing access to the audio/video equipment, public announcement system and electronic message board should be installed and accessible to jury staff members only. Digital video disc or video cassette players may be used to play prerecorded video.

(d) Jury Commissioner's Office

The jury commissioner's office and workstations for clerical staff should have power and voice/data connections in their office or workstations for typical office equipment such as computers, peripheral computer devices, facsimile machines and printers. The jury commissioner's office should have access to the automated jury system. If high-*bandwidth* applications, such as desktop video, are needed or anticipated, data *jacks* connecting to the *LAN* / *WAN* through fiber optic, coaxial cable or other similar high-*bandwidth* data distribution systems should be provided. The jury commissioner's office should be connected to the building's *CCTV* and *MATV* systems. The jury commissioner should also have *Internet* access. The commissioner's office should also be linked to the jury assembly area's public address system. A video camera may also be installed for live video announcements by the commissioner.

JURY DELIBERATION ROOM

The jury deliberation rooms should have telephone, data (including fiber optic), video and power connections. The room should also have a pull-down screen for video projection as well as a cart- or ceiling-mounted monitor. The room should be equipped with a networked personal computer (with DVD drives) and a VCR. A call system to summon a bailiff when the jury is deliberating should be provided.

While telecommunication and data connections provide a link to court systems and increase the flexibility of the room for nonjury uses, care must be taken to ensure that jurors cannot communicate with people outside of the jury deliberation room .

Section VI: Court Administration

Section VI: COURT ADMINISTRATION

Court administration/case management includes the principal business functions of the court as well as case management and record keeping. There is also a large public interface with people filing cases, paying fees/fines and seeking information and assistance. Business office and information distribution technologies are mainly in use here. Connectivity to the court's networks and space planning that incorporates the use of these technologies and considers their impact on other court users are significant design considerations.

1. AREA DESCRIPTION

(a) Office of the Court Executive

The court executive and immediate support and clerical staff should have power and voice/data connections in their office or workstations for typical office equipment such as computers, peripheral computer devices, facsimile machines and printers. If high-*bandwidth* applications, such as desktop video, are needed or anticipated, data *jacks* connecting to the *LAN* / *WAN* through fiber optic, coaxial cable or other similar high-*bandwidth* data distribution systems should be provided. When offices are larger than 200 nsf, they should have two sets of voice/data and power outlets, one located near the desk and the other near seating and/or the conference area. The court executive officer's office should be connected to the building's *CCTV* and *MATV* systems. The court executive should also have *Internet* access.

The reception counter voice/data and power outlet(s) should be installed at counter height. Space and connections for *network printers*, copiers and facsimile machines should be provided in carefully considered locations because it can be noisy and disruptive. Its location should be chosen for convenience and noise control, typically, its placed in open-office areas, copy rooms or near the reception counter. Data and power outlets should be nearby with *dedicated electrical circuits* provided for all copiers. An analog telephone line is generally required for remote maintenance of digital copiers. Facsimile machines require power and a telephone line (typically analog) nearby.

(b) Fiscal/Budget

The fiscal/budget office's responsibilities are primarily administrative, with technology requirements generally limited to power and voice/data connections for typical office equipment (e.g., computers, printers, copiers). Impact printers, which are significant noise sources, may be used for multipart forms printing. Printers and copiers usually experience heavy use and high volume output in the fiscal/budget office and should be located to minimize disruption due to noise and pedestrian traffic.

(c) Human Resources

With the exception of training facilities, human resource's (HR) technology needs are typically limited to power and voice/data connections for office equipment. Personnel information is considered sensitive and the privacy and security of information should be

considered in the design and layout of these spaces. Access to the *personnel management system* should be limited and controlled as should access to the hardware and data-distribution system that serves this unique area.

HR training facilities should be provided with power and *voice/data outlets* and connected to the court's *LAN*, *WAN*, video and audio networks. The room should be designed to accommodate a video projector and ceiling-, wall- or cart-mounted television or monitor with videotape and DVD capability. A drop-down screen should also be provided. The room should be provided with a telephone designed for conferences. The training room, if larger than 200 net square feet, should be prepared for future videoconferencing and may be equipped for it at occupancy.

(d) Information Systems

- **Computer Room**
  Larger court facilities may require an air-conditioned computer room that provides convenient placement and access for mainframe, mini-computers and/or computer network *file servers*. The computer room should be located near data and telephone distribution closets. The room is the heart of the court's data network and is commonly the entry point for common carrier, high-*bandwidth* communication lines (e.g., T-1, ISDN, and DSL) that serve the building. The room should have enough storage for manuals, spare parts and blank media. It may, also, include workstations for Information Systems (IS) personnel installing or trouble-shooting equipment.

  Computer rooms should be designed with raised *access flooring* (pedestal and stringer systems only) that allows computers and other equipment such as tape drives, CD jukeboxes and voice-mail systems to be easily installed, moved, repaired and removed. A structured grid that provides data and power outlets every five feet (in two directions) may be installed under the *access floor*. A structured grid is particularly useful in computer rooms that contain a large number of *file servers,* simplifying the addition and replacement of equipment. A minimum of 30% of the electrical outlets should be served by an uninteruptible power source (*UPS*) designed to allow the orderly shut down of computer equipment during a power interruption. Providing electrical outlets connected to the building's emergency power-generation equipment and through *UPS* should be carefully considered for critical equipment. Moisture detectors and a fire-suppression system should be installed under the floor. Drains should, also, be provided under the floor in case of sprinkler or chilled water piping leaks.

  When possible, all equipment should be rack mounted, including *file servers* and hubs. Experience has demonstrated that installed racks should allow for 50% growth above move-in requirements. Cable management should be well planned with easy access and 50% expansion capacity. Racks should be well illuminated to facilitate systems maintenance. Fluorescent lighting integrated into the rack system

(e.g., spanning the aisle between two racks and mounted to them) should be considered. Power strips providing convenient access to standard, *UPS*, and emergency power should be mounted conveniently on the racks. If access flooring is not installed, an overhead cable tray and ladder system should be installed to route all cables to the equipment racks.

Telephone outlets should be available at key locations such as equipment racks and workstations. Multiple telephone lines/connections for *modem* banks may also be required.

An electrical load center dedicated to the computer room should be provided. Power conditioners may also be required. Clearly visible emergency power off switches that turn off all power to the computer room should be located near the entry and *UPS* equipment.

Adequate cooling is critical to the operation of computer equipment. A separate building heating, ventilating and air-conditioning (HVAC) zone should be provided for the computer room. A supplemental air conditioning system may also be required due to heat generated by equipment concentrated in the computer room. Both systems should operate independently and be able to cool the computer room to minimum requirements in case one system fails. Air conditioning, lighting and electrical service should be provided continuously, 24 hours per day, seven days per week.

The acoustics of the computer room should be carefully designed to minimize the sound level within the room since personnel may be required to work there for extended periods of time. Similarly, sound transmission from the room to adjacent spaces should be controlled.

Access to the computer room should be limited to authorized personnel and controlled by a cipher lock, card reader or keypad. Any means of access through the ceiling plenum, pipe chase or other similar spaces should be eliminated.

A fire-suppression system should be considered for the computer room. While a waterless system is preferred, a wet system with high temperature heads may be used.

- **Network File Server Rooms**
  Smaller than a computer room, these rooms provide space for network *file servers* and associated equipment (not mainframe or mini-computers) and typically found in medium- to smaller-sized courthouses. Most of the features outlined above for a computer room would also be appropriate for the network file server room. Raised *access flooring* is desirable but not a necessity. Appropriate, clean and dedicated power should be provided. Equipment should be rack mounted with easy access to power and data (and possibly telephones for *modem* banks). If access flooring is not

installed, an overhead cable tray and ladder system should be installed to route all cables to the equipment racks. The room should be designed with 50% expansion capability. The need for supplemental or separately zoned air-conditioning will depend upon the heat loads of the planned equipment. The room should be adequately cooled 24 hours per day, seven days per week. Access to the room should be controlled. Thirty percent of the electrical power outlets should be provided with *UPS,* and critical equipment should be connected to the building's emergency power system.

- **Data Distribution Closets/Equipment Rooms**
  These small rooms are typically located on individual floors so that distribution of data services can be appropriately zoned to minimize and equalize the distance of horizontal cable runs radiating from them. See Section II. The closet should have a rack for mounting data hubs and other equipment. Installed racks should allow for 50% growth above move-in requirements. Cable management should easily accessible, with expansion capacity. Racks should be well illuminated and located to facilitate systems maintenance. Power strips should be mounted conveniently on the racks. Stand-alone *UPS* units may be required. Outlets connected to the building's emergency power system may also be required. Access to data closets should be controlled.

- **Tape Storage Closet**
  A staging closet for daily pick-up of back-up tapes for off-site storage may be needed. The closet should be conveniently located outside the computer room to avoid interruption of information systems personnel.

- **Offices**
  Information systems (IS) offices require power and *voice/data outlets*, including high-*bandwidth* (e.g., fiber optic cable) connections. Over the network, 0personnel should have access to all the court's information management systems (case management, personnel, fiscal, etc.) for systems maintenance and updating. Computers should be served by *dedicated electrical circuits*.

- **Equipment/Storage Room**
  These rooms are typically used for receiving, assembling, configuring, repairing and testing computer equipment. The room is often used to burn-in new computers (run continuously for 48 to 72 hours) before they are installed on the user's desktop. The room should have a standing-height counter with multiple power and data outlets above it. The room is also used for staging equipment prior to its disposal. The room should be well lighted.

- **Computer Training Room**
  A dedicated computer training room should be provided in the courthouse. The room should be designed with flush floor and *voice/data outlets* for hard-wired connection of personal computers. Computers should be located on specially

designed tables that have integrated wire management and CPU racks, limiting desktop equipment to monitors, keyboards and mice. An instructional system designed to interact with students and allow the instructor to take control of individual computers may also be installed. The room should have either video monitors (cart- or ceiling-mounted) or a drop-down video screen strategically placed to ensure that all students have a good view. A video projector should be planned for and may be provided as a ceiling-mounted unit. Larger training rooms may require voice reinforcement and ALS systems. Video equipment such as DVD and VCR should be conveniently located. Equipment storage space should be nearby. Lighting in the room, including day lighting, should be carefully planned to avoid computer screen glare and assure visibility of projected images. Videoconferencing and *distance learning* functions should also be considered.

(e) Purchasing

The purchasing office's responsibilities are primarily administrative, with technology requirements generally limited to power and voice/data connections for typical office equipment (e.g., computers, printers, copiers).

(f) Case Management and Assignment Area

This area is typically an open-office area with multiple workstations. Each workstation should have power and voice/data connections for typical office equipment such as computers and peripheral computer devices. *Network printers* are generally located in nearby copy or file rooms or workstation areas specifically designed to control noise from these machines. Facsimile machines are also typically located in these areas and will require a voice/data outlet (typically with an analog telephone line) in addition to power.

(g) Revenue/Collections

Staff offices and workstations should have power and *voice/data outlets* for typical office equipment such as computers, printers and computer peripheral devices. *Network printers* and facsimile machines are typically shared and located in nearby copy, file or specially designed workstations.

(h) General Work Area and Miscellaneous Support Space

- **Clerk Work Area**

  This is typically an open-office area with multiple workstations, private offices for supervisors and a staff break/multi-purpose room. The open-office area is generally contiguous to or near the public service counter. In addition to conducting business that requires typical power and voice/data service to each work location, the staff processes, handles, and stores a large volume of case records. The court may use *document-imaging* technology for filing and storing records. Court clerks collect and disseminate information to various state and local agencies such as the Department of Corrections (DOC), Department of Motor Vehicles (DMV) and Department of Justice (DOJ), and should be linked to them by a *WAN* or the *Internet*. Access to

the *Internet* or *WAN* also facilitates electronic case filing and posting of court information such as calendars, motions and probate notes on *Internet* Web sites and/or electronic bulletin boards.

- **Workstations**
  Staff should have access to case management, accounting and calendaring information systems. Each workstation and office should have power and voice/data connections for typical office equipment such as computers and peripheral computer devices. *Network printers* are generally located in nearby copy or file rooms or open office areas specifically designed to control noise from these machines. Facsimile machines, which may be used for filing cases, are also typically located in these areas and require a telephone line (typically analog) in addition to power. *Access floor* systems should be considered to facilitate reconfiguring the open office-area and to simplify installation and replacement of computer equipment.

- **Processing Area**
  Case exhibits may be bar coded in this area for identification and tracking. The area should also have power and *voice/data outlets*.

- **Microfilming/*Scanning* Area**
  A work-room or workstation should be planned for *document imaging,* with adequate space for handling a large volume of paper-based records. The area should also accommodate a large scanner capable of handling legal size (8.5" x 14") paper. Electronic records may be stored on the computer system, CDROM, optical disk or other electronic archival media. Because of the size of the files typically created, *document-imaging* areas should have access to high-*bandwidth* network distribution (e.g., fiber optic cable). The area should also have power and *voice/data outlets* for typical business equipment. Courthouses may need to accommodate both electronic and paper media. The exclusive use of *document-imaging* technologies, however, could reduce the space needed for court records.

(i) Public Counter

Public information such as local court rules, calendars, directions, payment of filing fees and/or fines and court records is increasingly available over the *Internet* or through other remote technologies (e.g., *computer bulletin boards*, interactive voice response systems). The court's current and anticipated use of these technologies and their potential impact on the number of courthouse visitors should be considered carefully when determining the court's space needs.

- **Public Counter**
  With the increased use of *electronic filing* and record storage, public counter staff should have convenient access to computer and printer stations. The location of the equipment should be carefully planned. Additional power and *voice/data outlets* should be provided on both public and staff sides of the counter to allow rapid and easy equipment connections as needs are identified.

- **Cashier**
  This area should have power and *voice/data outlets* for typical office equipment such as computers, printers and computer peripheral devices for each cashier workstation

- **Reception/Waiting**
  The use of kiosks and public computer terminals are reshaping the design and layout of courthouse public reception and waiting areas. Court information and services that may be available through public computer terminals and *information kiosks* are credit card payment of fines or fees, court forms, directions to court facilities and courtrooms, court calendars, voter registration and case files.

  Strategically located self-service kiosks and computer terminals can reduce the number of people using the service counter while increasing customer satisfaction. Kiosks can be located on the building exterior, either in nearby locations (e.g., drive-ups) or on the courthouse's exterior walls. They may also be located within the reception/waiting areas. These devices can significantly alter the pedestrian circulation patterns and queuing areas required both at the service counter and in front of the devices themselves. The location of kiosks and computer information terminals should be carefully planned to ensure customer convenience, avoid conflicts with customers who need to talk to court staff and minimize security risk. For customer convenience and to minimize the number of people who need to enter the building (possibly through perimeter security screening), exterior locations are preferred. Within the reception/waiting area, these devices should be located in the vicinity of the public service counter and placed to avoid conflicts between people waiting to be served by staff. Kiosks and computer terminals may also improve access to information for persons with disabilities, including the vision and hearing impaired.

- **Records Viewing Area**
  The records viewing area should be designed for easy viewing and reproduction of public court records. Although courts keep records on paper and microfiche, electronic records are increasingly used and are now becoming the preferred media. Viewing areas or rooms should be designed to utilize this technology. The area or room should have *voice/data outlets* linked to record management files and power. Because electronic court records are typically graphic images of scanned files, a high-*bandwidth* network connection (e.g., fiber optic cable) should be provided. Space for a personal computer should also be provided. A personal printer may be used with each personal computer, or the computers may be networked to a high-speed printer located in court staff space. If paper files are in use, access to copiers should be provided. High-speed networked digital copiers, linked to the public computer terminals through the data network, may serve as a printer for electronic files and a copier for paper files. An analog telephone line is generally required for remote maintenance of digital copiers. Copier locations should be provided with power from a *dedicated electrical circuit* as well as data connections, including high

bandwidth-outlets. Power outlets should also be provided for microfiche readers/printers.

(j) Records Storage

- **Active Records**
  Active records storage should have power and *voice/data outlets* for typical business equipment located at work areas within the room. A minimum of one duplex receptacle and one voice/data outlet (two voice, two data, two spare *jacks*) should be installed.

- **Inactive Records**
  A minimum of one duplex receptacle and one voice/data outlet (two voice, two data, two spare *jacks*) should be installed.

(k) Exhibit/Evidence Storage

The exhibit storage area should have power and *voice/data outlets*.

(l) Other Support Areas

- **Break Room**
  In addition to electrical outlets for the room's main function as a break room, a minimum of one additional electrical outlet for computer use (on *dedicated electrical circuit*) and one voice/data outlet (two voice, two data, two spare *jacks*) should be installed for possible computer use.

- **Restrooms**
  Only electrical outlets are required.

- **Copy/Work-Room**
  The copy/work-room should accommodate high-volume copying *with dedicated electrical circuits* and data outlets for high-speed digital copiers. *Dedicated electrical circuits* and *voice/data outlets* for high-speed *network printers* may also be located in this room. An analog telephone line is generally required for remote maintenance of digital copiers. The area should be ventilated to dissipate copier heat and fumes and should be located and designed to minimize noise transmission to other work areas. Additional convenience copiers may be located throughout the open office area. Power and a phone line, typically analog, should also be provided for a facsimile machine.

- **Supply Room**
  The supply room should have power and *voice/data outlets* for typical business equipment located at work areas within the room. A minimum of one duplex receptacle and one voice data plate (two voice, two data, two spare outlets) should be installed.

- **Conference Rooms**
  Conference rooms should be connected to the court's *LAN*, *WAN*, video and audio networks and may be connected to the *Internet*. At least one outlet to the court's *CCTV* system and one to the building's *MATV* system should be installed. Conference rooms should be designed to accommodate a ceiling-, wall- or cart-mounted television or monitor with videotape and DVD capability. The room should be provided with a telephone designed for conferences. The location of power and data outlets should be carefully considered, particularly to avoid tripping hazards when equipment is used at the conference table (floor monuments may be desirable). Video teleconferencing should be considered for all conference rooms larger than 200 net square feet. If it is not installed at occupancy, the room should be planned and prepared for its future installation, including an equipment closet, cableways and power to key locations (e.g., future camera locations) and electrical service sized for the future need.

Section VII: Court Support Area

Section VII: COURT SUPPORT AREA

1. AREA DESCRIPTION

(a) Children's Waiting Area

The children's waiting area staff should have access to the *case management system* and *jury management system* for assisting customers. Workstations should have power and voice/data connections for typical office equipment such as computers and peripheral computer devices including a *network printer*. *Network printers* may be located in nearby copy or file rooms or workstation areas specifically designed to control noise from these machines. Facsimile machines may also be located here and will require a voice/data outlet (typically with an analog telephone line) in addition to power. Personal identification systems (fingerprint, retina, etc.) to positively identify children and persons picking them up may also be considered.

(b) Customer Service Center and Pro Per Assistance Centers

Information kiosks or public computer terminals may be used for dispensing information to customers in this area. The location of kiosks and computer information terminals should be carefully planned to ensure customer convenience, avoid conflicts with customers who want to talk to court staff, and minimize security risk. Potential kiosk/public computer terminals require *dedicated electrical circuits* and *voice/data outlets* and should be connected to the *LAN*. Power and *voice/data outlets* should also be provided to study carrels and *Internet* access might be provided. Public telephones should be provided. *Dedicated electrical power* and *voice/data outlets* should be provided for networked printers and digital copiers designated for the public's use. An analog telephone line is generally required for remote maintenance of digital copiers. Printers and copiers are typically located in nearby copy rooms or in areas specifically designed to control noise and minimize disruption by users.

(c) Small Claims Advisory Services

Each workstation and office should have power and voice/data connections for typical office equipment such as computers and peripheral computer devices. *Network printers* are generally located in nearby copy or file rooms or open-office areas specifically designed to control noise from these machines. Facsimile machines are also commonly located in these areas and will require a telephone line (typically analog) in addition to power.

(d) Volunteer Offices / Workstations

See Small Claims Advisory Services above.

(e) Probate, Conservatorships, Guardianships and Court Investigators

See Small Claims Advisory Services above.

(f) Victim/Witness and Attorney Interview Rooms

Attorney interview rooms should have electrical power and *voice/data outlets* to support typical office equipment such as computers and peripheral computer devices. A phone designed for audio conferences should be readily accessible.

(g) Attorney Work / Waiting Area

Electrical power and *voice/data outlets* should be provided for every two to four work locations in this area. Local telephone service may be provided to allow users to connect to their personal *Internet* service provider. Power and voice/data outlets should be provided for a shared *network printer* that is located to control noise and minimize disruption. Facsimile machines may be located here and will require a telephone line (typically analog) in addition to power.

(h) Law Enforcement Waiting

The law enforcement waiting room should have electrical power and *voice/data outlets* for each workstation as well as power and voice/data outlets for a shared *network printer*. Printers should be located to minimize noise and disruption. Facsimile machines may be located here and will require a telephone line (typically analog) in addition to power. The room may also have space for a cart- or ceiling-mounted video monitor and a connection to the *MATV* system.

(i) Mail Room

The mail room and equipment staging areas should be equipped with power and *voice/data outlets* for each work location as well as power and voice/data outlets for a shared *network printer*. It is envisioned future automated systems will likely be used to route received items throughout the court. The automated systems may also tie together the court purchasing, receiving and accounts payable systems. These integrated systems rely on up-to-date information as the court receives items. The mail room will likely need access to automated systems to process outgoing mail and track special delivery items via the *Internet*. Facsimile machines may be located here and will require a telephone line (typically analog) in addition to power. Space and power should also be considered for package scanning (e.g., x-ray) equipment.

Section VIII: Family Court Services and Alternative Dispute Resolution

Section VIII: FAMILY COURT SERVICES AND ALTERNATIVE DISPUTE RESOLUTION

Mediation and other alternative dispute resolution services use office automation, presentation and communications technology.

1. FAMILY COURT SERVICES

(a) Mediator/Evaluator Office

The mediator/evaluator's office should have power and voice/data connections for typical office equipment such as computers, peripheral computer devices, facsimile machines and printers. Access to the *LAN*, *WAN* and the *Internet* should be provided.

(b) Reception/Waiting Area

The reception/waiting area may be planned to use kiosks and/or public computer terminals for dispensing information to customers. Strategically locating self-service kiosks and computer terminals can reduce the number of people at the service counter while increasing customer satisfaction. The location of kiosks and computer information terminals should be carefully planned to ensure customer convenience, avoid conflicts with customers who want to talk to court staff, and minimize security risk. Kiosks and public computer terminals require data outlets connected to the *LAN* and dedicated power. Power and *voice/data outlets* should also be provided for staff.

(c) Orientation Area

The orientation area should be connected to the court's *LAN*, *WAN*, video and audio networks. If high-*bandwidth* applications, such as desktop video, are needed or anticipated, data *jacks* connecting to the *LAN* / *WAN* through fiber optic, coaxial cable or other similar high-*bandwidth* data distribution systems should be provided. The room should have at least one outlet for the *CCTV* system and *MATV* system. The room should be designed to accommodate a ceiling-, wall- or cart-mounted television or monitor with videotape and DVD playback capability.

(d) Mediation Rooms

Mediation rooms should be connected to the court's *LAN*, *WAN*, video and audio networks. If high-*bandwidth* applications, such as desktop video, are needed or anticipated, data *jacks* connecting to the *LAN* / *WAN* through fiber optic, coaxial cable or other similar high-*bandwidth* data distribution systems should be provided. The rooms should have at least one outlet for the building's *CCTV* system and *MATV* system. They should be designed to accommodate a ceiling-, wall- or cart- mounted television or monitor with videotape and DVD playback capability. Rooms should be provided with a telephone designed for conferences. At least one mediation room should have a video camera, including audio, for remote observation and recording of proceedings. A drop-down video projection screen should also be provided. Video teleconferencing should be considered for all mediation rooms. If not installed at occupancy, the room should be planned and prepared for its future installation, including an equipment closet, the

installation of *cableways* and power to key locations (e.g., future camera locations); and electrical service sized for the future need. All mediation rooms should have *Internet* access.

(e) Conference/Training Room
See Mediation Rooms above.

(f) Children's Waiting Area
See Orientation Area above.

(g) Security Station
The security station should have power and *voice/data outlets* for office equipment such as a computer. A security monitor linked to security cameras viewing the reception area and selected mediation rooms may be considered.

(h) Equipment Storage
Equipment storage should have at least one duplex power outlet and one voice/data outlet.

2. ALTERNATIVE DISPUTE RESOLUTION

(a) Settlement Conference Rooms
See Family Court Services Mediation Rooms above.

(b) Mediation/Arbitration Coordinator's Office
See Family Court Services Mediator / Evaluators Office above.

(c) Mediation/Arbitration Rooms
See Family Court Services Mediation Rooms above.

(d) Reception / Waiting
See Family Court Services Reception/Waiting Area above.

Section IX: Court Security Operation

Section IX: COURT SECURITY OPERATION

Discussion in this section addresses business applications of technology, not security applications.

1. COURT FACILITY SECURITY LEVELS

Court facility security levels are addressed in the Task Force on Court Facilities' first interim report, "Preliminary Determination – Trial Court Facilities Guidelines."

2. AREA DESCRIPTION

SECURITY COMMAND CENTER

(a) Security Administration

The security administration area should have at least one set of power and *voice/data outlets* for each office or workstation for connecting typical office equipment such as computers, peripheral computer devices, facsimile machines and printers. Staff should have access to the *LAN*, *WAN*, and, possibly, the *Internet*.

Space and connections for a *network printer*, copier and facsimile machine should be provided because this equipment can be noisy and disruptive. Its location should be chosen for convenience and noise control. Data and power outlets should be located near this equipment with *dedicated electrical circuits* provided for the copier. An analog telephone line is generally required for remote maintenance of digital copiers. Facsimile machines require power and a telephone line (typically analog) nearby.

(a) Monitoring and Communications Room

Power and *voice/data outlets* should be provided for each workstation.

(b) Security Staff Office

See requirements for Security Administration above.

(c) Briefing Room

The briefing room should be provided with power and *voice/data outlets* and connected to the court's *LAN and WAN*. The room should be designed to accommodate a video projector and ceiling-, wall- or cart-mounted television or monitor with videotape and DVD capability. A drop-down screen should also be provided. The room should be provided with a telephone designed for conferences.

(d) Security Staff Support Area

Interview rooms should have power and *voice/data outlets*. These rooms should be monitored by the command center staff and should be equipped with audio and video recording devices. Cameras and microphones should be discretely located to record interviews. Space for a cart-mounted video monitor and video equipment (e.g., VCR, DVD) may be provided.

(e) Interview Room

Power and *voice/data outlets* should be provided.

Section X: In-Custody Defendant Receiving, Holding and Transportation

Section X: IN-CUSTODY DEFENDANT RECEIVING, HOLDING AND TRANSPORTATION

Discussion in this section addresses business applications of technology, not security applications.

1) AREA DESCRIPTION

(a) Vehicle Sallyport

There are no special construction considerations required to accommodate technology in his area.

(b) Security Vehicle Parking

There are no special construction considerations required to accommodate technology in his area.

(c) Pedestrian Sallyport

There are no special construction considerations required to accommodate technology in his area.

(d) Initial Holding Cells and Search Area

Voice monitors, closed circuit television cameras with optional event recording and silent duress alarms with video enhancement should be provided in this area.

(e) Control Center

Each workstation should have power and *voice/data outlets* for connecting typical office equipment such as computers, peripheral computer devices, facsimile machines and printers. Staff should have access to the *LAN*, *WAN*, and, possibly, the *Internet*.

Space and connections for a *network printer*, copier and facsimile machine should be provided because this equipment can be noisy and disruptive. Its location should be chosen for convenience and noise control. Data and power outlets should be located near this equipment with *dedicated electrical circuits* provided for the copier. An analog telephone line is generally required for remote maintenance of digital copiers. Facsimile machines require power and a telephone line (typically analog) nearby.

(f) Central Holding Cells

Voice monitors and closed circuit television cameras with optional event recording should be provided in this area.

(g) Booking Station

Each workstation should have power and *voice/data outlets* for connecting typical office equipment such as computers. Staff should have access to the *LAN*, *WAN*, and, possibly, the *Internet*. Space for a small personal printer should be provided. The area

should be designed for the use of a digital photography unit, fingerprint scan station, booking terminal and other equipment utilized by the appropriate law enforcement agency.

(h) Kitchenette/Lunch Room
At least one set of power and *voice/data outlets* should be provided for each workstation for connecting a computer and/or telephone.

(i) Dress-out, Shower, Property and Clothing Storage
Voice monitors should be provided in this area.

(j) Attorney Interview Space
Closed circuit television cameras with optional event recording should be provided in this area.

(k) Secure Elevators, and Corridors
Voice monitors and closed circuit television cameras with optional event recording should be provided in this area.

(l) Courtroom Holding Cells
At least one holding cell in the court facility should be equipped with a speaker that allows the defendant to hear court proceedings. This cell could be utilized for a disruptive defendant who is not willing to participate appropriately in the trial process.

(m) Bail/Fine Payment Counter
Each counter location should have power and *voice/data outlets* for connecting typical office equipment such as computers. Staff should have access to the *LAN* and *WAN*. Space for a small personal printer should be provided. The counter design should incorporate *CCTV* monitor and silent duress alarm if they are part of the building's security systems.

(n) Storage Rooms
Storage rooms should have at least one duplex power outlet and one voice/data outlet.

Section XI: Building Support Services

Section XI: BUILDING SUPPORT SERVICES

1. AREA DESCRIPTION

(a) Information Kiosk or Counter

An automated kiosk using touch screen-technology may be used in place of an information counter to provide basic information and direction to the public. Alternatively, large, easy-to-read monitors displaying calendar and directional information may be provided. These devices should be located in the public lobby where they are immediately visible to visitors cleared through the security screening process. Care should be taken to locate monitors where they do not obstruct the entrance, circulation and security screening of persons entering the courthouse. Kiosks and monitors will require power and data outlets. Kiosks may need a *dedicated electrical circuit*. Limited *Internet* access should be considered for kiosks. A telephone may be located at the kiosk so that a visitor can contact selected court staff for additional information.

(b) First Aid Station

The first aid station should have power and *voice/data outlets* for office equipment such as a computer.

(c) Food Services

There are no special construction considerations required to accommodate technology in his area.

(d) Loading Dock

The loading dock should have power and *voice/data outlets* for office equipment such as a computer. Additionally connections to the court's audio and video systems for the media should be considered. This location may be convenient for parking media vehicles/vans, and audio-video feeds from the court's systems can avoid media cable strung through the courthouse's primary public circulation routes.

(e) Supplies and Equipment Storage

Supply staging and storage areas should have power and *voice/data outlets* for office equipment such as a computer.

(f) Maintenance Shops and Offices

Maintenance shops and offices should have power and voice/data outlets for typical office equipment such as computers and peripheral computer devices. The maintenance shop's *network printers* are generally located in nearby copy or file rooms or open-office areas specifically designed to control noise from these machines. Facsimile machines are also typically located in these areas and will require an analog telephone line in addition to power.

(g) Custodial Supplies and Storage

Storage rooms should have at least one duplex power outlet and one voice/data outlet.

Appendix A: Glossary

GLOSSARY OF TERMS

Access floor	A raised flooring system with removable panels to allow access to the area below. This type of floor is typically used where frequent and ready access to cable is required.
Assistive listening system (ALS)	Amplification systems designed to help people hear better in a variety of difficult listening situations and improve understanding of conversations. These systems will enhance sound in large public facilities, or in small group situations. There are several types of assistive systems: personal amplifiers, personal FM systems, personal public address large area FM systems, infrared systems and loop systems.
Automated attendant systems	Computer-based telephone-answering system that lets callers route their own calls to specific people, departments, mailboxes and information resources within an organization. Callers who enter the automated attendant mailbox simply enter an extension number or select an option from a menu to reach the appropriate destination.
Bandwidth	The amount of data that can be sent through a given communications circuit per second.
Cable carrying plant	The family of hardware designed to support and/or enclose cable and wiring including cable trays, conduit, access floor, cellular deck and ducts.
Cable tray	An open, metal framework used to support electrical conductors or telecommunication and data cable. Similar to cable duct except that the cable tray has a lattice-type construction and an open top.
Cableways	A cable that bridges a gap between two points and permits materials to be pulled across the gap between the points.
Case management system	The case management system is the heart of the court's automated processing. Traditionally the case management system maintained the register of actions for all case types (traffic, criminal, civil, family law, probate and juvenile) but it should also support many other court functions. The case management system should include all case-related accounting, collections, noticing, statistics, disposition reporting and public and agency access. The case management system can also be used as part of an integrated document-imaging system.
Category 5 data cable	A cable is typically two or more insulated wires (electrical conductors) held together and protected by an overall jacket. Many types of cables are commonly used for data transmission. Category 5 cable is made of twisted pair wires designed to transmit data at 100 Mbits/second. It is typically utilized for local area networks (e.g., Fast Ethernet).
Ceiling plenums	In air-conditioning systems, the air space between a hung ceiling and the underside of the floor or roof above. Acts as a return to the air-handling unit. Telephone and data wiring is sometimes strung in this space.
Cellular deck (floor)	Structural steel or concrete floor panels with integral raceways (cells) for electrical, communication, or data cable.
Closed circuit television (CCTV)	A television circuit with no broadcasting facilities and a limited number of reception stations.
Codec	Coder/decoder that compresses and decompresses video and audio signals.
Computer bulletin board	A computer and associated software that typically provide an electronic message database where people can log in and leave messages. Apart from public message areas, a computer bulletin board may provide archives of files, personal electronic mail and any other services or activities of interest to the bulletin board's system operator.
Computer presentation	Multimedia presentation utilizing computer hardware and software.

Court attendant	A person sometimes used in place of a bailiff for civil proceedings with low security risk
Court reporting system	A system designed to produce a verbatim record of court proceedings.
Dedicated electrical circuit	A portion of an electrical system that extends wiring beyond the fuse or circuit breaker and provides electrical current to specific equipment and only that equipment.
Digitized case files	Court files that are maintained electronically in digital format.
Distance learning	Interactive instruction using real-time telecommunications systems to link students and instructors who are physically in different locations. Satellite systems and computer networks, including the Internet, commonly provide the link between sites.
Document imaging	The process of converting paper documents to digital files that can be managed electronically.
Downtime	A period of time when a specific system or equipment is inoperable.
Electronic filing	Filing documents with the court utilizing electronic media sent over data networks including the Internet, wide area networks and local area networks.
Energy management	A program to minimize energy consumption while still meeting consumer needs. Energy is often managed in building systems by computers that control lighting, heating and air conditioning for optimal performance.
Evidence/exhibit management system	The exhibit/evidence management system allows the court to mark, inventory and report on exhibits brought into the court. The system produce s bar code labels to mark and track the location of exhibits. In the future, the system may also be used to retrieve and present electronic exhibits directly onto the court presentation equipment.
File servers	Hardware and software that together provide file-handling and storage functions for multiple users on a local area network.
Financial management system	Financial management system maintains information on accounts payable and budget.
Information kiosks	A small structure used for dispensing information to the public.
Infrastructure	The basic facilities, equipment, services and installations needed for the growth and functioning of an organization.
Interactive voice response (IVR)	IVR systems allow people to communicate orally with computers through Telephones. IVR systems are often used in courts to allow prospective jurors to input their bar-coded identification number through the telephone and obtain information about their reporting assignments.
Intermediate distribution rooms (closets)	Small rooms or closets that house telecommunications or data network equipment to provide an intermediate link between a central telephone switch or computer room. These rooms are typically located on each floor of a multistory building and placed to minimize the distance from the room to the desktop.
Internet	An internet is any set of networks interconnected with routers. The Internet is the largest internet in the world and is used by individuals and organizations to access vast amounts of information and to communicate between users. It is a three-level hierarchy composed of backbone networks (e.g. ARPAnet, NSFNet, MILNET), mid-level networks, and stub networks. These include commercial (.com or .co), university (.ac or .edu) and other research networks (.org, .net) and military (.mil) networks that span many different physical networks around the world with various protocols.
Jack	A female connecting device or socket to which wires are attached and into which a plug may be inserted.

Jury management system	The jury management system automates the processing of jurors by the court staff. The system should allow the court the flexibility to specify the number of jurors summoned and the number of jurors selected for each panel. The system should also calculate and store information related to juror pay, create notices for jurors who do not appear and be able to provide statistics.
Lavaliere style microphone	A small, wired microphone that clips to a person's lapel or clothing.
Legal research system	Legal research systems have been approached in two ways: 1) CDs loaded on a local server, and 2) On-line access to services. Their advantages and disadvantages are: 1) CDs on a local server provide a controlled environment where the court can affect response time by upgrading computers or the network. The downside is the very high maintenance cost of continually loading new software. 2) On-line access eliminates the maintenance cost related of new software revisions. The downside is that the court has no control of response time. With the increased stability of the *Internet*, the problems of response time and reliability are greatly reduced.
Life cycle costs	The cost of a system over its entire life span including the costs of planning, design, development, acquisition (construction), operations, maintenance and disposal.
Local area network (LAN)	A type of distance limited communications network (typically under a few kilometers) that supports many computers used for data transfer, text, facsimile and video applications.
Magnetometers	In building applications, a security device used to detect metal objects, including weapons, through use of magnetic fields. A metal detector.
Maintenance management systems	A computerized information system for managing, planning and tracking a building's recurring maintenance.
Masking sound	Electronically produced sound engineered to make speech unintelligible at a defined distance from the source. Typically used to provide speech privacy in open-office environments.
Master antennae television (MATV)	A system allowing distribution of commercial cable or satellite television to selected rooms or areas of a building. By utilizing a channel inserter, building occupants may also broadcast audio-video signals to selected channels (e.g., channel 2).
Modems (modulator/demodulator)	An electronic device for converting between serial data (typically RS-232) from a computer and an audio signal suitable for transmission over telephone lines.
Modular telephone system	A telephone system that allows any telephone instrument to be connected to any voice outlet (jack).
Network printer	A device for printing on paper electronic information and images contained on computers and accessible through a local area network (LAN). Network printers typically serve more than one computer user.
Personnel management system	Personnel management system maintains information on personnel history, payroll, position control and hiring functions.
Procurement management system	Procurement management system maintains information on purchase orders, deliveries, fixed assets and court vendors.
Raceway	Any furrow or channel constructed to loosely house electrical conductors.
Real time transcripts	Written electronic court transcripts that are produced almost instantaneously with the spoken word, utilizing machine stenography and computer technology.

Scanning devices	Input devices that take in an optical image and digitize it into an electronic image represented as binary data. This can be used to create a computerized version of a document, photo or illustration.
Specialty jacks	Connection points located in wall-mounted faceplates or floor monuments for systems other than electrical outlets, R-45 data jacks or R-11 telephone jacks.
Technology based court record	Court records maintained in media other than traditional paper, such as electronically or on optical disk.
Telecommunication devices for the deaf (TDD)	Special phones with keyboards that permit individuals with hearing impairments to communicate over standard phone lines with other TDDs or, by using established relay systems, with non-TDD users.
Telecommuting	Working remotely from one's normal place of business, typically at home, utilizing electronic equipment to access necessary information and people.
Telephone conferencing equipment	Telephone equipment used to connect more than two parties simultaneously, commonly including microphones optimized for conference room use where more than one person may be speaking.
Uninterruptable power supply (UPS)	A battery power supply that is guaranteed to provide working voltage to a computer regardless of interruptions in the incoming electrical power.
Virtual courtroom	An artificial courtroom environment created with computer hardware and software and presented to the user in such a way that it appears and feels like a real environment.
Voice/data outlets	The point where telephone and computer devices are connected to telephone circuits or the data networks. In these guidelines, voice/data outlets typically have two wired data jacks (LAN/WAN), two wired voice (telephone) jacks and two spare jacks. These spares may hold fiber optic, coaxial cable or other specialty jacks.
Wide area network (WAN)	A data communications network that spans any distance and is usually provided by a public carrier. You get access to the two ends of a circuit; the carrier does everything in between.

Appendix B: Management Information Systems and Equipment Commonly Used in the Courthouse

			Information Systems								Public Access				Remote Access				Office Automation & Storage Systems								Networks						Presentation									Communications																Miscellaneous		
		FACILITY COMPONENT & GUIDELINES CHAPTER	Evidence / Exhibit Mgmt.	Jury Mgmt.	Case Mgmt.	Court Reporting	Legal Research	Financial	Personnel	Procurement	Informational kiosk	IVR	Internet Access	Payment of fees (ATM or credit card)	Internet Access	WAN	Telecommuting	Video Appearances	PC's (desktop or notebook)	Notebook PC's only	CRT monitor or flat monitor	Flat monitors only	Personal printers	Microfiche	Scanner	Copiers (non-network)	Servers / Computers	Large network printers	Small network printers	Network copiers	Live note on real time transcript	LAN	DVD	Video orientation	Video tape	CRT monitor or flat monitor	Flat monitors only	Screens	Virtual Reality systems (holograms)	Projection	Electronic Boards	Voice Lines	PC / speech synthesizer	Text generator	Fax (stand alone & shared fax server)	Telephone conferencing	Video conferencing	Video Feed	Speakers	Microphones	White noise	CCTV	Assisted Listening	Public Address system	Web meetings	Distance Learning	Internet Access	Hotelling	Finger Print Tech.	TV / Games
3.0	COURTROOM																																																										
		Spectator Area	x			x												x			x															x			x					x				x	x											
		Litigation Area																																																										
	3.a	Bench	x		x	x	x						x		x	x		x	x		x										x	x				x			x			x	x	x				x	x	x	x						x			
	3.b	Court Clerk Workstation	x		x	x	x						x		x	x			x		x		x		x	x			x		x	x				x			x			x		x	x			x	x	x			x				x			
	3.c	Court Reporting Area	x			x												x	x	x		x															x		x					x				x	x	x			x							
	3.d	Bailiff Workstations														x																x										x																	x	
	3.e	Witness Box	x			x																x									x						x		x					x				x	x	x										
	3.f	Jury Box	x			x																x									x						x		x					x				x	x	x			x							
	3.g	Counsel Area	x			x							x		x					x		x									x	x					x		x			x		x				x	x	x							x			
	3.h	Exhibit Display Area & Equipment	x			x																										x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x		x	x							
4.0	JUDICIAL OFFICES AND SUPPORT SPACE																																																											
	4.a	Chambers			x								x		x	x	x		x		x		x									x			x	x						x				x		x				x		x	x		x	x		
	4.b	Support Staff Workstations/Reception					x									x	x		x		x				x				x			x				x						x			x													x		
	4.c	Copy/Workroom/Supply Area																												x		x										x			x															
	4.d	Court Reporting Work Area				x										x	x		x		x					x			x			x				x						x			x									x				x		
	4.e	Bailiff workstations																														x										x																		
	4.f	Conference Room/Law Library					x						x		x	x			x		x											x			x	x		x		x		x				x	x	x				x			x		x			
	4.g	Research Attorney Offices/Workstations					x						x		x	x	x		x		x		x		x				x			x				x						x															x	x		
	4.h	Robing/Conference Room														x			x		x											x				x						x																		
5.0	JURY ASSEMBLY AND DELIBERATION																																																												
		JURY ASSEMBLY AREA																																																										
	5.a	Jury Assembly Room/Info. Presentation		x							x									x	x											x		x	x	x		x		x		x		x				x	x	x			x							x
		Seating																																															x											x
		Work Cubicles																		x												x										x							x											
		Information Presentation area		x																	x											x		x	x	x		x		x				x				x	x	x			x							x
	5.b	Form Counter and Coffee/Snack Area																																																										
	5.c	Jury Reception / Check-In Area		x																												x										x																		
	5.d	Jury Commissioner Office		x												x	x		x		x					x			x			x				x						x			x													x		
		JURY DELIBERATION ROOM	x																		x														x	x												x												
6.0	COURT ADMINISTRATION																																																											
	6.a	Office of the Court Executive			x		x	x	x	x			x		x	x	x		x		x											x				x						x				x									x		x	x		
		Staff workstations			x											x	x		x		x											x				x						x																x		
		Conference rooms														x																x						x		x		x				x	x	x				x			x	x				
		Internal reception/waiting areas														x																x										x																		
	6.b	Fiscal/Budget Office																																																				x						
		Staff offices						x	x	x			x		x	x	x		x		x											x				x						x				x											x	x		
		Staff workstations						x								x	x		x		x											x				x						x																x		
		Vault/secure storage area																																																										
	6.c	Human Resources																																																				x						
		Staff offices						x	x	x			x		x	x	x		x		x											x				x						x				x											x	x		
		Staff workstations							x							x	x		x		x											x				x						x																x		
		Reception/waiting/counter area														x																x										x																		
		Application filing areas																														x										x																		
		Testing rooms																	x		x											x				x						x																		
		Interview rooms																														x			x			x		x		x																		
	6.d	Information Systems						x	x	x																																												x						
		Staff offices	x	x	x	x	x	x	x	x			x		x	x	x		x		x											x				x						x				x											x	x		
		Staff workstations											x		x	x	x		x		x									x		x				x						x			x												x	x		
		Reception/waiting/counter area														x																x										x																		
		Project rooms	x	x	x	x	x	x	x	x						x									x							x										x						x				x								
		New equipment storage and staging																														x										x																		
		Computer/server/related equipment area	x	x	x	x	x	x	x	x		x				x	x										x		x			x										x			x		x													
		Demonstration area														x			x		x											x			x	x		x		x		x														x				
		Used equipment area																														x										x																		
	6.e	Purchasing Office																																																				x						
		Staff offices			x			x	x	x			x		x	x	x		x		x											x				x						x				x											x	x		
		Staff workstations			x											x	x		x		x											x				x						x																x		
	6.f	Case Management & Assignment										x																																										x						
		Staff offices			x			x	x	x			x		x	x	x		x		x											x				x						x				x											x	x		
		Staff workstations			x											x	x		x		x											x				x						x																x		
		Counter/reception														x			x		x					x						x				x						x																		
		Workrooms																	x		x											x				x						x			x															
	6.g	Revenue / Colections																																																											
		Staff offices			x			x	x	x			x		x	x	x		x		x											x				x						x				x											x	x		
		Staff workstations			x											x	x		x		x											x				x						x																x		
	6.h	General Work Area & Misc. Support																																																										
		Staff offices			x			x	x	x			x		x	x	x		x		x											x				x						x				x									x		x	x		
		Staff workstations			x							x				x	x		x		x								x			x				x						x																x		
		Conference room														x			x		x											x				x		x		x		x				x		x				x			x					
		Interior reception/waiting														x																x										x																		
	6.i	Public Counter																																																				x						
		Counters									x		x		x				x		x		x									x				x						x															x			
		Queuing area																																																										
		Cashiers station												x									x									x										x																		

			Information Systems								Public Access				Remote Access				Office Automation & Storage Systems								Networks						Presentation									Communications																Miscellaneous		
FACILITY COMPONENT & GUIDELINES CHAPTER			Evidence / Exhibit Mgmt.	Jury Mgmt.	Case Mgmt.	Court Reporting	Legal Research	Financial	Personnel	Procurement	Informational kiosk	IVR	Internet Access	Payment of fees (ATM or credit card	Internet Access	WAN	Telecommuting	Video Appearances	PC's (desktop or notebook)	Notebook PC's only	monitor or flat monitor	Flat monitors only	Personal printers	Microfiche	Scanner	Copiers (non-network)	Servers / Computers	Large network printers	Small network printers	Network copiers	Live note or real time transcript	LAN	DVD	Video orientation	Video tape	monitor or flat monitor	Flat monitors only	Screens	Virtual Reality systems (holograms)	Projection	Electronic Boards	Voice Lines	PC / speech synthesizer	Text generator	Fax (stand alone & shared fax server)	Telephone conferencing	Video conferencing	Video Feed	Speakers	Microphones	White noise	CCTV	Assisted Listening	Public Address system	Web meetings	Distance Learning	Internet Access	Hotelling	Finger Print Tech.	TV / Games
		Public PC stations																	X		X		X			X										X																									
		Form writing area																																																									
	6.j	Records Storage																																																			X						
		Active Records Storage																													X										X																		
		File process area																	X		X			X	X				X	X		X				X						X																		
		Inactive Records Storage																													X										X																		
		Public viewing area			X								X		X				X		X			X								X										X															X			
	6.k	Exhibit/Evidence Storage																																																									
	6.l	Other Support Areas																																																									
		Workrooms													X			X		X											X				X						X																		
		File areas																													X										X																		
		Supply area																													X										X																		
		Equipment area																								X		X	X		X										X			X															
7.0	COURT SUPPORT																																																									
	7.a	Children's Waiting Area																	X		X											X			X	X		X		X		X										X		X						X
	7.b	Customer Service & Pro Per Assistance			X		X						X		X	X			X		X		X			X	X					X										X																		
	7.c	Small Claims Advisory Services					X						X		X	X			X		X		X			X	X					X										X																		
	7.d	Volunteer Offices / Workstation					X						X		X	X	X		X		X		X		X				X	X		X				X						X			X										X			X	X		
	7.e	Probate, Conservatorships, etc.					X						X		X	X			X		X		X			X	X					X										X																		
	7.f	Victim/Witness and Attorney Interview Rms.																													X										X				X								X						
	7.g	Attorney Work / Waiting Area																		X												X										X												X						
	7.h	Law Enforcement Waiting																	X		X		X			X						X				X						X												X						
	7.i	Mail Room																													X										X												X						
8.0	FAMILY COURT SERVICES & ALT. DISPUTE RES.																																																									
8.1	FAMILY COURT SERVICES																																																									
	8.1.a	Mediator/Evaluator Office			X		X	X	X	X			X		X	X	X		X		X								X			X				X						X				X								X			X	X		
	8.1.b	Reception/Waiting Area									X				X	X					X		X									X				X						X															X			
	8.1.c	Orientation Room																													X	X	X	X	X		X		X		X											X							
	8.1.d	Mediation Room											X		X				X	X	X											X				X		X		X		X				X		X						X	X		X			
	8.1.e	Conference/Training Room											X		X	X			X		X											X			X	X		X		X		X		X		X		X	X	X		X	X			X	X			
	8.1.f	Children's Waiting Area																	X		X											X			X	X		X		X		X										X		X						X
	8.1.g	Security Station																	X		X											X										X																		
	8.1.h	Equipment Storage																										X	X		X										X			X									X		X				
8.2	ALTERNATE DISPUTE RESOLUTION																																																									
	8.2.a	Settlement Conference Rooms											X		X				X	X	X											X				X		X		X		X				X		X						X	X		X			
	8.2.b	Mediation/Arbitration Coordinator's Office			X		X	X	X	X			X		X	X	X		X		X											X				X						X				X								X			X	X		
	8.2.c	Mediation/Arbitration Rooms											X		X				X	X	X											X				X		X		X		X				X		X						X	X		X			
	8.2.c	Reception/Waiting														X					X		X									X				X						X																		
9.0	COURT SECURITY																																																									
	9.2	SECURITY COMMAND CENTER																																																									
	9.2.a	Security Administration																																																									
		Staff offices						X	X	X						X	X		X		X								X	X		X				X						X			X	X												X		
		Reception waiting																													X										X																		
		Conference room																													X										X																		
	9.2.b	Monitoring and Communications Room																	X		X		X									X				X						X												X						
	9.2.c	Security Staff Office						X	X	X						X	X		X		X								X	X		X				X						X			X	X												X		
	9.2.d	Briefing Room																													X										X												X						
	9.2.e	Security Staff Support Area																																																									
	9.2.f	Interview																																																									
10.0	IN-CUSTODY DEFENDANT RECEIVING, HOLDING																																																									
	10.1.a	Vehicle Sallyport																													X										X																		
	10.1.b	Security Vehicle Parking																																																									
	10.1.c	Pedestrian Sallyport																																																									
	10.1.d	Initial Holding Cells & Search Area																																																								X	
	10.1e	Control Center																													X										X								X										
	10.1.f	Central Holding Cells																																																									
	10.1.g	Booking Station			X														X		X		X									X				X						X			X														X	
	10.1.h	Kitchen/Lunch Storage																													X										X																		
	10.1.I	Dress-out, Property & Clothing Storage																																																									
	10.1.j	Attorney Interview Space																													X										X																		
	10.1.k	Secure Elevators & Corridors																																																									
	10.1.l	Courtroom Holding Cells																																													X											
	10.1.m	Bail/Fine Payment Counter																	X		X		X									X				X						X																		
	10.1.n	Storage Rooms																													X										X																		
11.0	BUILDING SUPPORT SERVICES																																																									
	11.1.a	Information Kiosk or Counter									X		X		X				X			X	X									X					X					X															X			
	11.1.b	First Aid Station																													X										X																		
	11.1.c	Food Services												X							X											X				X						X																		
	11.1.d	Loading Dock																													X										X																		
	11.1.e	Supplies and Equipment Storage																													X										X																		
	11.1.f	Maintenance Shops & Office																	X			X										X					X					X																		
	11.1.g	Custodial Supplies and Storage																																																									